

Case 3285***Pemphigus* Hartig, 1839 (Insecta, Hemiptera, APHIDIDAE): proposed conservation**

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Abstract. The purpose of this application, under Article 23.9.3 of the Code, is to conserve the generic name *Pemphigus* Hartig, 1839 for a group of aphids of economic importance by suppression of the senior subjective synonym *Rhizobius* Burmeister, 1835.

Keywords. Nomenclature; taxonomy; Hemiptera; APHIDIDAE; *Pemphigus*; *Pemphigus bursarius*; *Rhizobius*.

1. The genus *Rhizobius* was established by Burmeister (1835, p. 87) to include *Rhizobius pilosellae* sp. nov., a junior synonym of *Pemphigus bursarius* (Linnaeus, 1758) and *R. pini* sp. nov. (currently *Prociphilus pini* (Burmeister, 1835)). Passerini (1860, p. 30) subsequently designated *Rhizobius sonchi* Passerini, 1860 (a junior synonym of *Pemphigus bursarius*) as the type species of *Rhizobius* Burmeister, 1835. This was an invalid act, because *R. sonchi* was not one of the species originally included in *Rhizobius*. Wilson (1910, p. 153) validly designated *R. pilosellae* as the type species of *Rhizobius*. *Rhizobius* is the type genus of the family-group name RHIZOBIINAE Passerini, 1862 (p. 202).

2. The genus *Pemphigus* was described by Hartig (1839, p. 645) to include *P. bursarius* (Linnaeus), *P. fraxini* Fabricius (currently *Prociphilus fraxini* (Fabricius, 1777)) and *P. quercus* Hartig (a nomen nudum according to Remaudière & Remaudière (1997)) and is currently in use. Its type species is *Aphis bursaria* Linnaeus, 1758, subsequently designated by Fitch (1855, p. 73, footnote). *Pemphigus* includes 66 species, according to Remaudière & Remaudière (1997), Zhang & Qiao (1997) and Coffin & Remaudière (2001). It is the type genus of the family-group name PEMPHIGINI Herrich-Schaefer, 1854 (p. viii, as *Pemphigiden*). *Pemphigus* is already on the Official List of Generic Names in Zoology (Opinion 1019, 1974).

3. *Rhizobius* and *Pemphigus* are subjective synonyms because their type species are also subjective synonyms. However, there has always been a single taxonomic concept despite differences in name usage. Following the Principle of Priority, *Rhizobius* (1835) has priority over *Pemphigus* (1839).

4. The last three uses of the generic name *Rhizobius*, not counting reviews or catalogues, have been the description of *Rhizobius viridis* by Theobald (1915, p. 184) (= *Prociphilus xylostei* (De Geer)), the record of *Rhizobius graminis* Buckton, 1883 (= *Aploneura lentisci* (Passerini)) (Willcocks, 1925, p. 122) and a synonymic note on *Rhizobius graminis* Buckton (Laing, 1927).

5. The name *Rhizobius* Burmeister, 1835 is no longer in use since it has been considered a junior homonym of *Rhizobius* Stephens, 1829 (Coleoptera, COCCINELLIDAE), emended to *Rhizobius* by Agassiz, 1846. However, *Rhizobius* Burmeister and *Rhizobius* Stephens are not homonyms, since there is a one-letter difference (see Article 56.2) and *Rhizobius* Agassiz is a junior homonym of Burmeister's name. This was already mentioned by Eastop & Hille Ris Lambers (1976, p. 374) by stating that '*Rhizobius* Burmeister, 1835 is not preoccupied by *Rhizobius* Stephens as this spelling is an emendation by Agassiz, 1846 of a generic name originally spelled *Rhizobius* Stephens, 1829'.

6. The provisions of Article 23.9.1 do not apply here, making impossible the automatic reversal of precedence, because the name has been used after 1899 (see para. 4). Following Article 23.9.3, this case requires referral to the Commission for a ruling under the plenary power (Article 81). While the case is under consideration use of the junior name is to be maintained (Article 82). Any return to the use of the generic name *Rhizobius* instead of *Pemphigus* would greatly affect stability and universality of nomenclature, causing unnecessary confusion. *Pemphigus* is used in combination with 66 specific names with regularity. A list of 53 references by 57 authors using *Pemphigus* and covering the years 1902–2002 is held by the Commission Secretariat (e.g. Aoki, 1975; Heie, 1980; Hardie, 1987; Moran, 1993; Blackman & Eastop, 1994). Moreover, the valid tribal name would be based on the synonym *Pemphigus*. A further matter of confusion would be the misspelling or emendation of the beetle genus *Rhizobius* to *Rhizobius*, as often happens. Confusion resulting from use of the older name could affect well-known species of economic importance. Several species (e.g. *P. bursarius*, *P. populitransversus* (Riley)) are well known to farmers, agronomists and forestry experts. *P. passeki* Börner and *P. phenax* Börner & Blunck can affect roots of caraway (*Carum carvi*) and carrots respectively (Blackman & Eastop, 2000).

7. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to suppress the name *Rhizobius* Burmeister, 1835 for the purposes of the Principle of Priority but not for those of the Principle of Homonymy;
- (2) to emend the entry on the Official List of Generic Names in Zoology for *Pemphigus* Hartig, 1839 to record that it is conserved by suppression of *Rhizobius* Burmeister, 1835;
- (3) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the name *Rhizobius* Burmeister, 1835, as suppressed in (1) above.

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).